

eGovernment and web services: the eENVplus approach opening new operational solutions

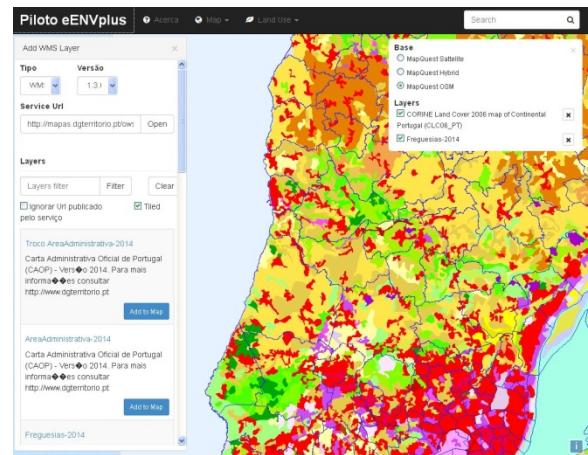
The Portugal pilot example (DGT)



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Main goals of Portuguese pilot:

- Create an application to monitor land cover changes over time
- Develop a prototype integrating web services to build indicators and monitor urban dynamics
- Evaluate fitness for purpose of available datasets to deal with urban evolution



What we made within the project

- Data harmonization (COS, CRUS, Administrative units) and validation
 - Creation and validation of Metadata
- Make the ETS for all the data: COS, CLC, CRUS and CAOP, INSPIRE COMPLIANT, included in the project
 - Creation of indicators to monitor urban dynamics
 - Geoportal (WFS, WMS and WPS)
- Training session to test the geoportal (New University of Lisbon)

<http://mapas.dgterritorio.pt:85/eenvplus/en/index>

Cover page

mapas.dgterritorio.pt:85/eenvplus/en/index

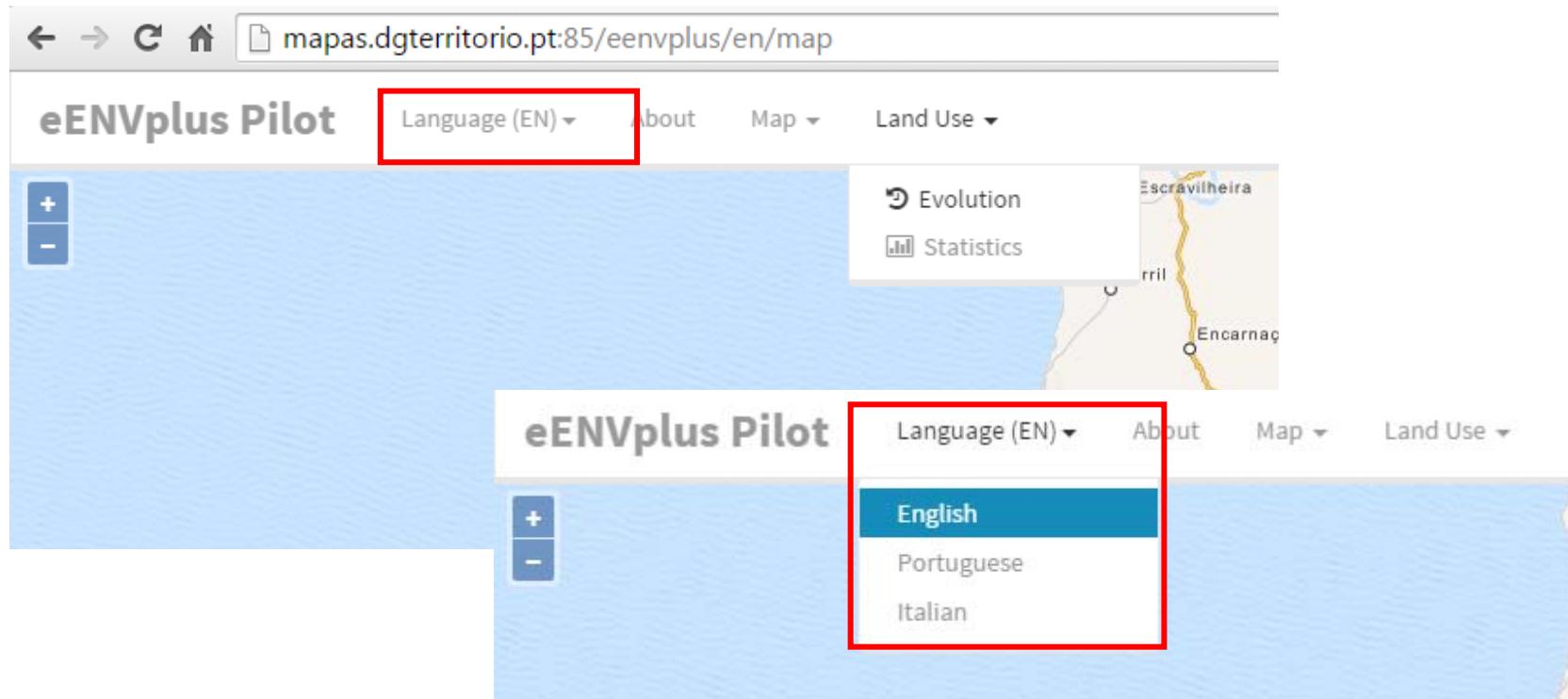
eENVplus Pilot

Urban Landuse Planning: INSPIRE'd land use planning Indicators to monitor good urban planning practices.

eENVplus Pilot About Contact Language (EN) ▾

14:08 25-05-2015

Head tabs



The screenshot shows two instances of the eENVplus Pilot interface. In both, a red box highlights the 'Language (EN) ▾' dropdown menu.

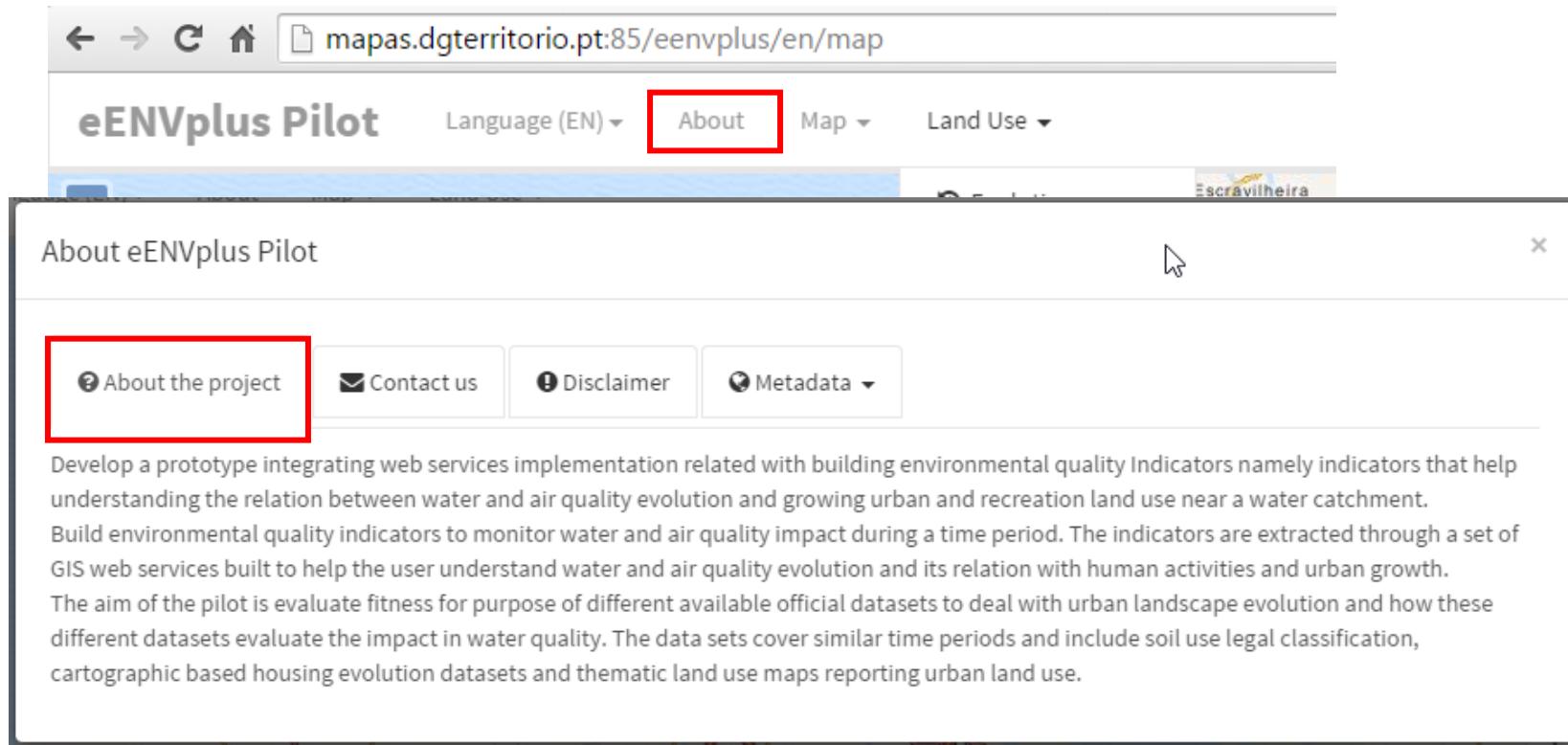
The top instance shows a dropdown menu with three options: English (highlighted with a red box), Portuguese, and Italian.

Language
English
Portuguese
Italian

The bottom instance shows a similar dropdown menu with the same three options, also highlighted with a red box.

Language
English
Portuguese
Italian

About tab



← → C ⌂ mapas.dgterritorio.pt:85/eenvplus/en/map

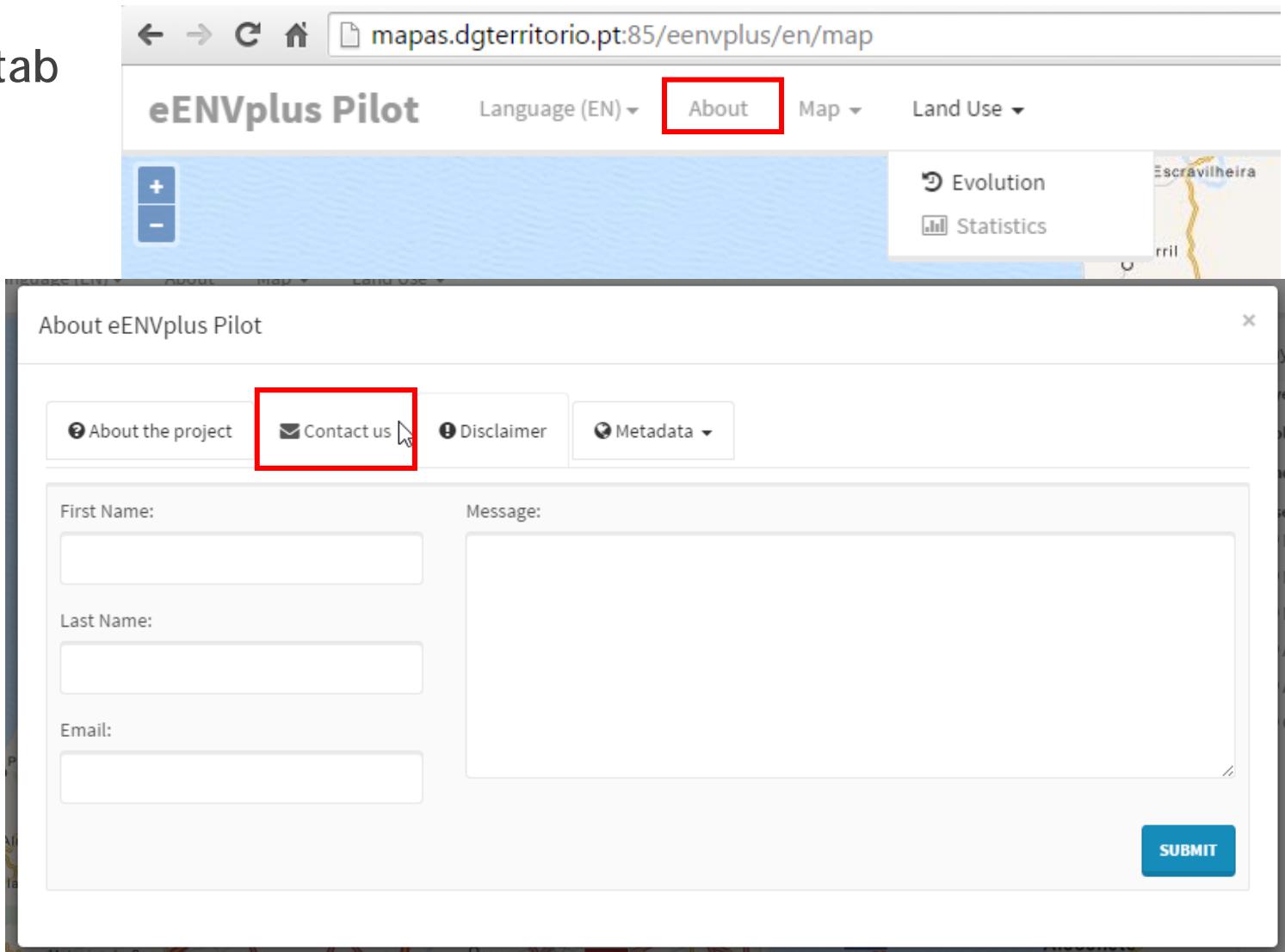
eENVplus Pilot Language (EN) ▾ About Map ▾ Land Use ▾

About eENVplus Pilot X

About the project Contact us Disclaimer Metadata ▾

Develop a prototype integrating web services implementation related with building environmental quality Indicators namely indicators that help understanding the relation between water and air quality evolution and growing urban and recreation land use near a water catchment. Build environmental quality indicators to monitor water and air quality impact during a time period. The indicators are extracted through a set of GIS web services built to help the user understand water and air quality evolution and its relation with human activities and urban growth. The aim of the pilot is evaluate fitness for purpose of different available official datasets to deal with urban landscape evolution and how these different datasets evaluate the impact in water quality. The data sets cover similar time periods and include soil use legal classification, cartographic based housing evolution datasets and thematic land use maps reporting urban land use.

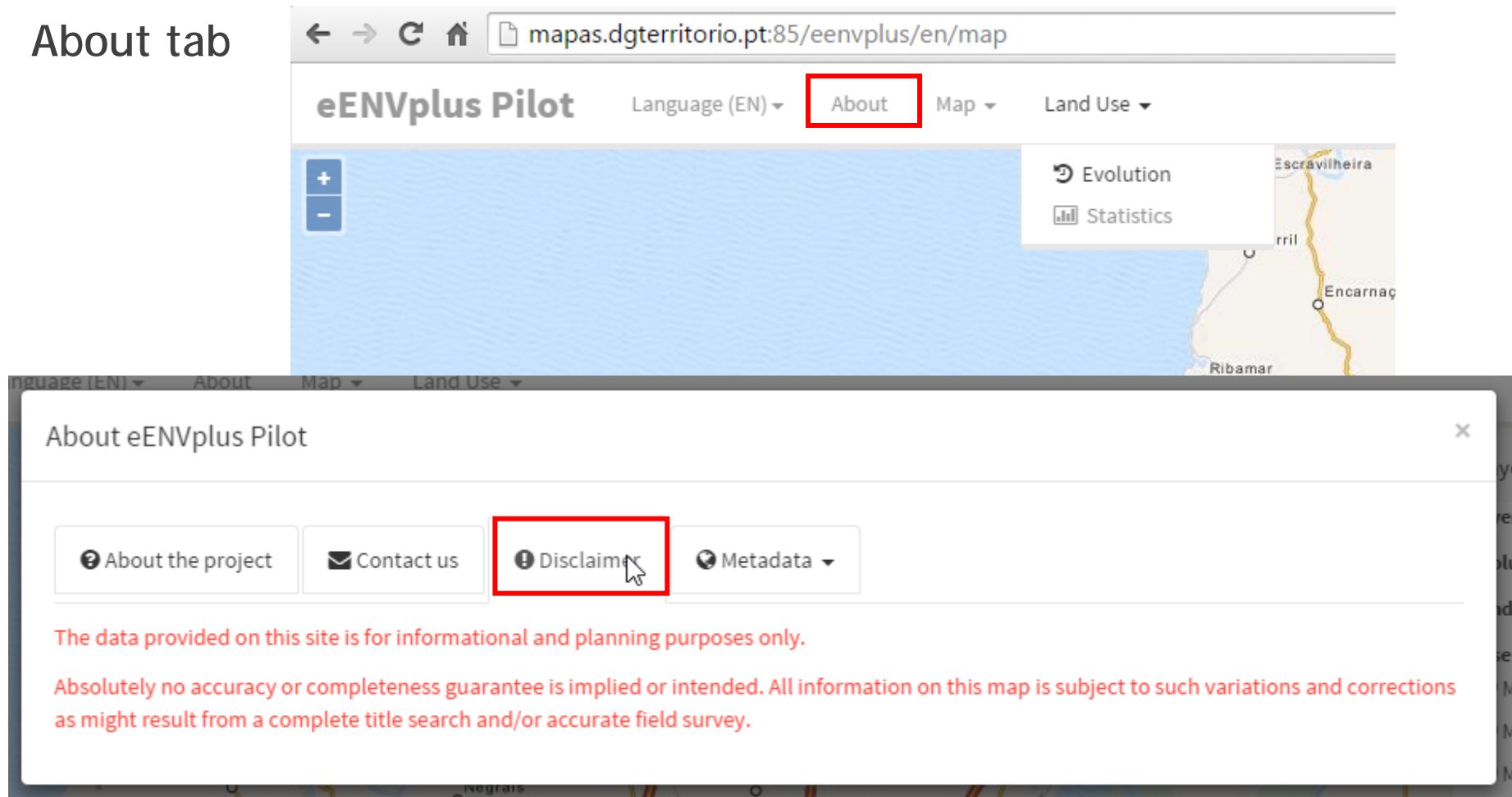
About tab



The screenshot shows a web-based application interface. At the top, there's a header with a back/forward button, a refresh/circular arrow button, and a home icon. The URL in the address bar is `mapas.dgterritorio.pt:85/eenvplus/en/map`. Below the address bar, the title "eENVplus Pilot" is displayed, followed by a language selector ("Language (EN)"), an "About" button (which is highlighted with a red box), a "Map" button, and a "Land Use" button. To the right of the "About" button, there are two links: "Evolution" and "Statistics". On the far right, there's a small map snippet showing a yellow line labeled "Escravilheira".

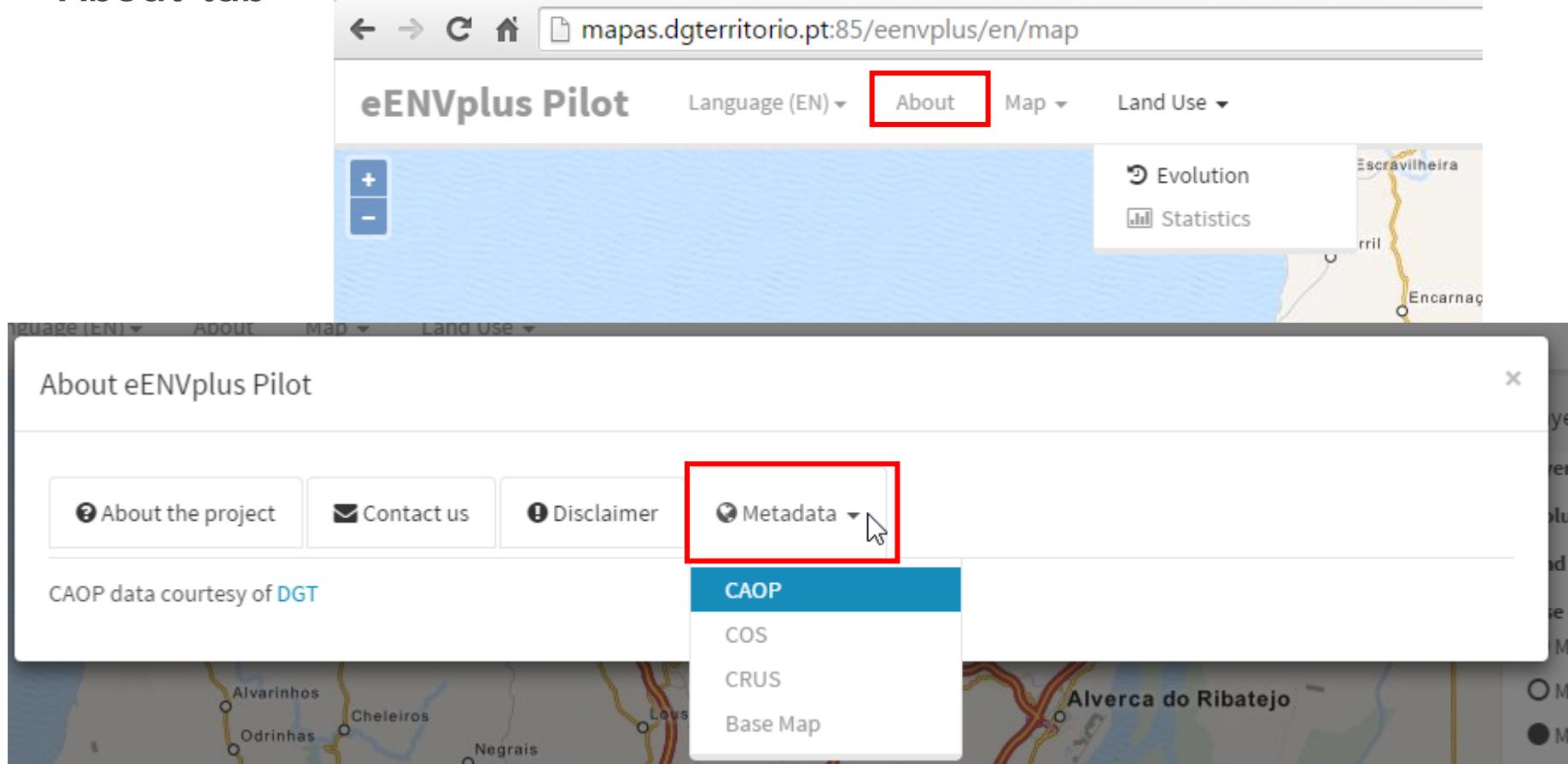
A modal window titled "About eENVplus Pilot" is open in the foreground. It contains several buttons: "About the project", "Contact us" (which is highlighted with a red box), "Disclaimer", and "Metadata". Below these buttons are input fields for "First Name" and "Last Name", and a larger text area for "Message". At the bottom right of the modal is a blue "SUBMIT" button.

About tab



The screenshot shows a web application interface for the eENVplus Pilot. At the top, there is a header with the project name 'eENVplus Pilot', language selection ('Language (EN)'), and three tabs: 'About' (which is highlighted with a red box), 'Map', and 'Land Use'. Below the header is a map of the Algarve region in Portugal, with several locations labeled: Escravilheira,rril, Encarnação, and Ribamar. To the left of the map is a zoom control with '+' and '-' buttons. On the right side of the map, there is a small sidebar with two buttons: 'Evolution' and 'Statistics'. In the bottom left corner of the main content area, there is a modal window titled 'About eENVplus Pilot' containing four buttons: 'About the project', 'Contact us', 'Disclaimer' (which has a red box around it and a cursor icon pointing to it), and 'Metadata'. Below this modal, there is a statement in red text: 'The data provided on this site is for informational and planning purposes only. Absolutely no accuracy or completeness guarantee is implied or intended. All information on this map is subject to such variations and corrections as might result from a complete title search and/or accurate field survey.'

About tab



The screenshot displays the 'About' tab of the eENVplus Pilot application. The top navigation bar includes links for Language (EN), About, Map, and Land Use. The 'About' link is highlighted with a red box. Below the navigation, there's a map interface with zoom controls (+, -) and a legend for Evolution and Statistics. The main content area is titled 'About eENVplus Pilot' and contains links for 'About the project', 'Contact us', 'Disclaimer', and 'Metadata'. A dropdown menu for 'Metadata' is open, showing options: CAOP (which is highlighted with a blue background and a red box), COS, CRUS, and Base Map. At the bottom of the page, it says 'CAOP data courtesy of DGT' and shows a map with place names like Alvarinhos, Odrinhas, Cheleiros, Negrais, and Alverca do Ribatejo.

Map tab



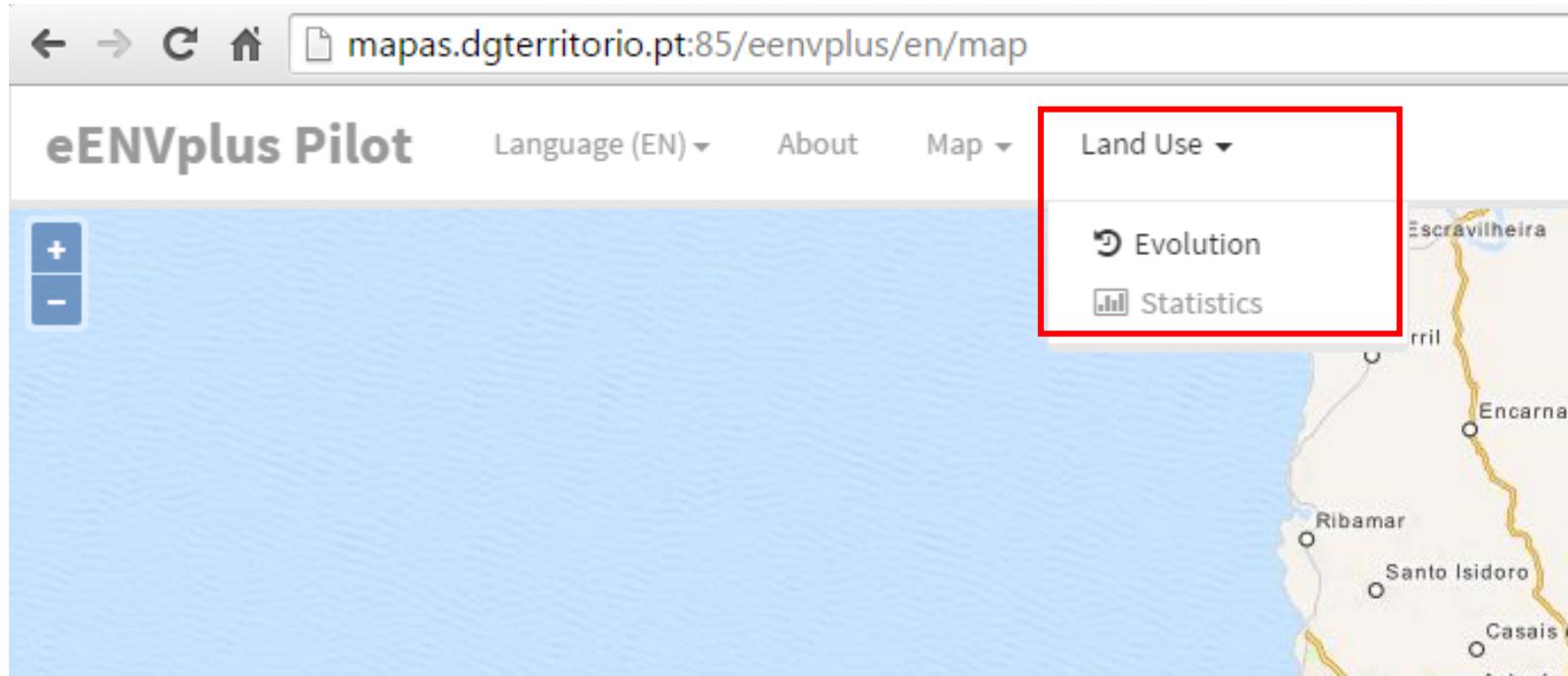
The themes that are added to the viewer come from OGC WMS services.

These themes can be add dynamically, based on user-specified service link

Map tab

- Based on the WMS url the user specified, the application contacts the service, retrieves and displays its features/capabilities (GetCapabilities).
- The application can identify the existence of Inspire Extended WMS Capabilities, presenting the user with a button (Show Metadata Service) that provides the access to service metadata.
- The user can individually add each layer provided by the service map. Once the user add the layer to the map, can control the visibility, transparency and see the legend.
- It can also inquire and get information about the features drawn on the map (GetFeatureInfo).

Head tabs



The application implements two sets of features:

1. Analysis of the evolution of land use/land cover
2. View of indicators to monitor urban dynamics



Land use | evolution

eENVplus Pilot

Language (EN) ▾

About

Map ▾

Land Use ▾

Land Use Evolution

Region

Loures (Portugal)

Period

- Select a year -

Add to Map

Selection Geometry

POLYGON RECTANGLE CLEAR

RUN PROCESS

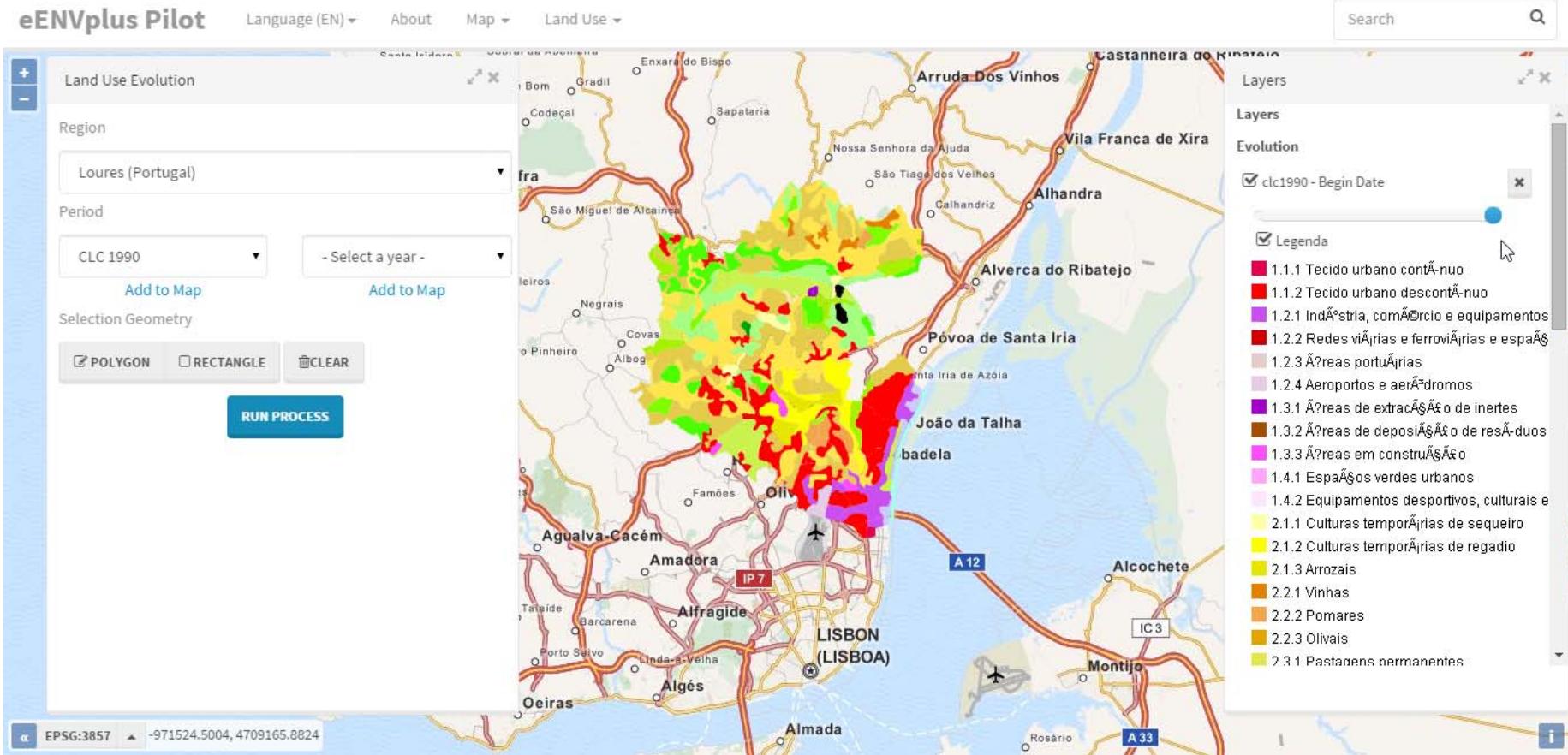
Region

- Loures (Portugal)
- Select a region -
- Trento (Italy)
- Loures (Portugal)

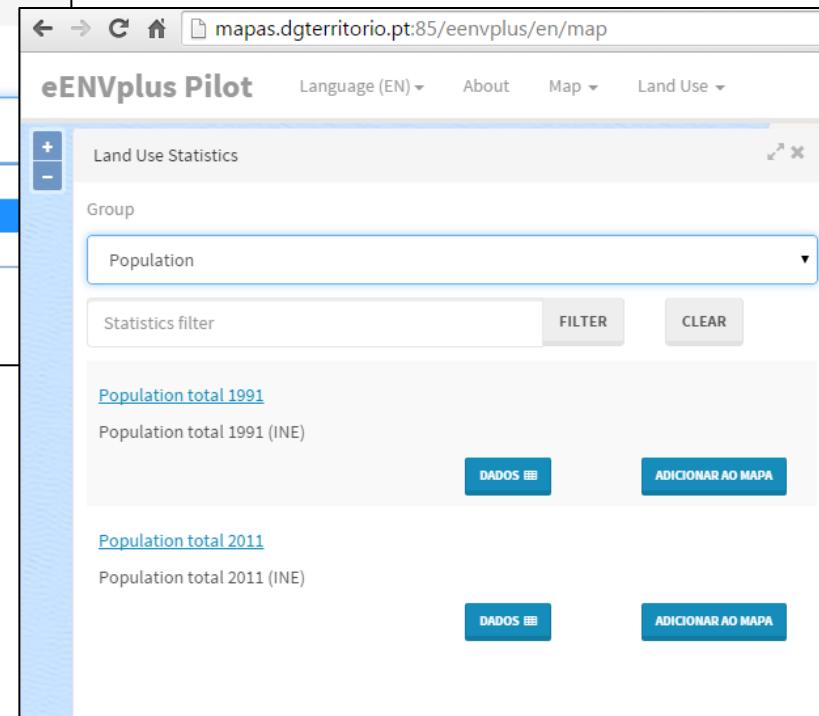
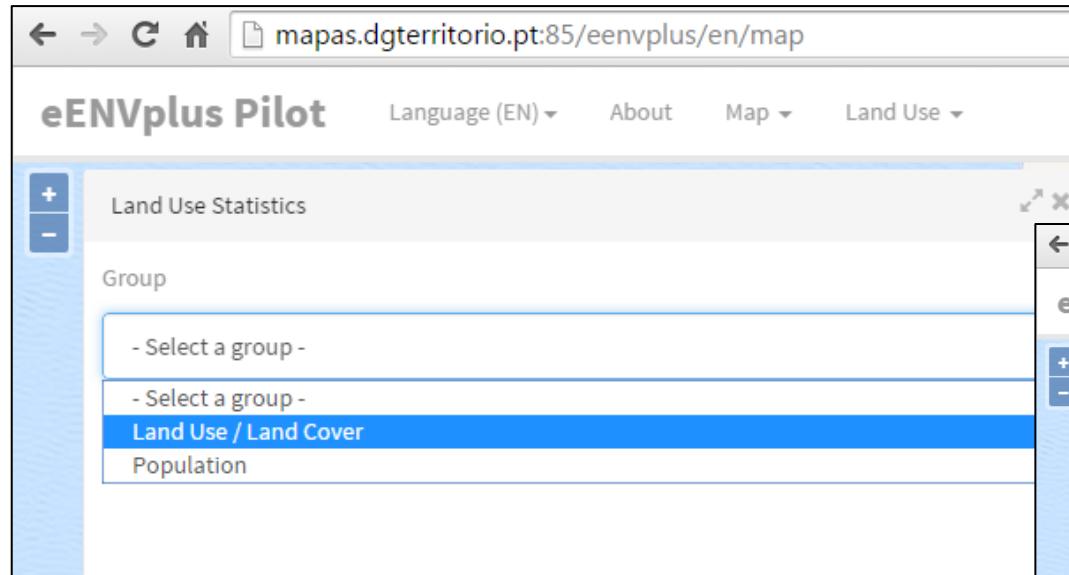
Period

- Select a year -
- Select a year -
- COS 1990
- COS 2010
- CLC 1990
- CLC 2012

Corine Land Cover Map 1990



Statistics tab | population group



The indicators are available through WMS and WFS (view and download services)

Statistics tab | Land use/land cover group

Land Use Statistics ✖

[Artificial surfaces CLC 1990](#)
Artificial surfaces - Corine Land Cover 1990
DADOS ADICIONAR AO MAPA

[Artificial surfaces CLC 2012](#)
Artificial surfaces - Corine Land Cover 2012
DADOS ADICIONAR AO MAPA

[Artificial surfaces per capita CLC 1990](#)
Artificial surfaces per capita - Corine Land Cover 1990
DADOS ADICIONAR AO MAPA

[Artificial surfaces per capita CLC 2012](#)
Artificial surfaces per capita - Corine Land Cover 2012
DADOS ADICIONAR AO MAPA

[Artificial surfaces COS 1990](#)
Artificial surfaces - COS 1990
DADOS ADICIONAR AO MAPA

[Artificial surfaces COS 1990](#)
Artificial surfaces - COS 1990
DADOS ADICIONAR AO MAPA

[Artificial surfaces COS 2010](#)
Artificial surfaces - COS 2010
DADOS ADICIONAR AO MAPA

[Artificial surfaces per capita COS 1990](#)
Artificial surfaces per capita - COS 1990
DADOS ADICIONAR AO MAPA

[Artificial surfaces per capita COS 2010](#)
Artificial surfaces per capita - COS 2010
DADOS ADICIONAR AO MAPA

Statistics tab | Land use/land cover group

clc

FILTER

CLEAR

[Artificial surfaces CLC 1990](#)

Artificial surfaces - Corine Land Cover 1990

METADADOS **DADOS** **ADICIONAR AO MAPA**[Artificial surfaces CLC 2012](#)

Artificial surfaces - Corine Land Cover 2012

DADOS **ADICIONAR AO MAPA**[Artificial surfaces per capita CLC 1990](#)

Artificial surfaces per capita - Corine Land Cover 1990

DADOS **ADICIONAR AO MAPA**[Artificial surfaces per capita CLC 2012](#)

Artificial surfaces per capita - Corine Land Cover 2012

DADOS **ADICIONAR AO MAPA**

Apply a filter

Statistics tab | Land use/land cover group

eENVplus Pilot Language (EN) ▾ About Map ▾ Land Use ▾

Land Use Statistics

Group

Land Use / Land Cover

Statistics filter FILTER CLEAR

[Artificial surfaces CLC 1990](#)

Artificial surfaces - Corine Land Cover 1990

METADADOS DADOS ADICIONAR AO MAPA

The “Data” option returns the value of the selected indicator to each municipality

Freguesia	Artificial surfaces - Corine Land Cover 1990 (ha)
MOSCAVIDE	89.048639
PORTELA	98.581777
PRIOR VELHO	131.985783
SACAVÉM	370.40635
CAMARATE	429.617226
BOBADELA	185.675462
APELAÇÃO	48.161523
SANTO ANTÓNIO DOS CAVALEIROS	458.051028
FRIELAS	83.686894
UNHOS	132.885161
SÃO JOÃO DA TALHA	94.250761
SANTA IRIA DE AZOIA	96.085802
LOURES	550.346817
SANTO ANTÃO DO TOJAL	329.390856
SÃO JULIÃO DO TOJAL	134.098332
FANHÓES	86.876089
LOUSA	87.081735
BUCELAS	48.522914

Statistics tab | Land use/land cover group

Land Use Statistics

« Back

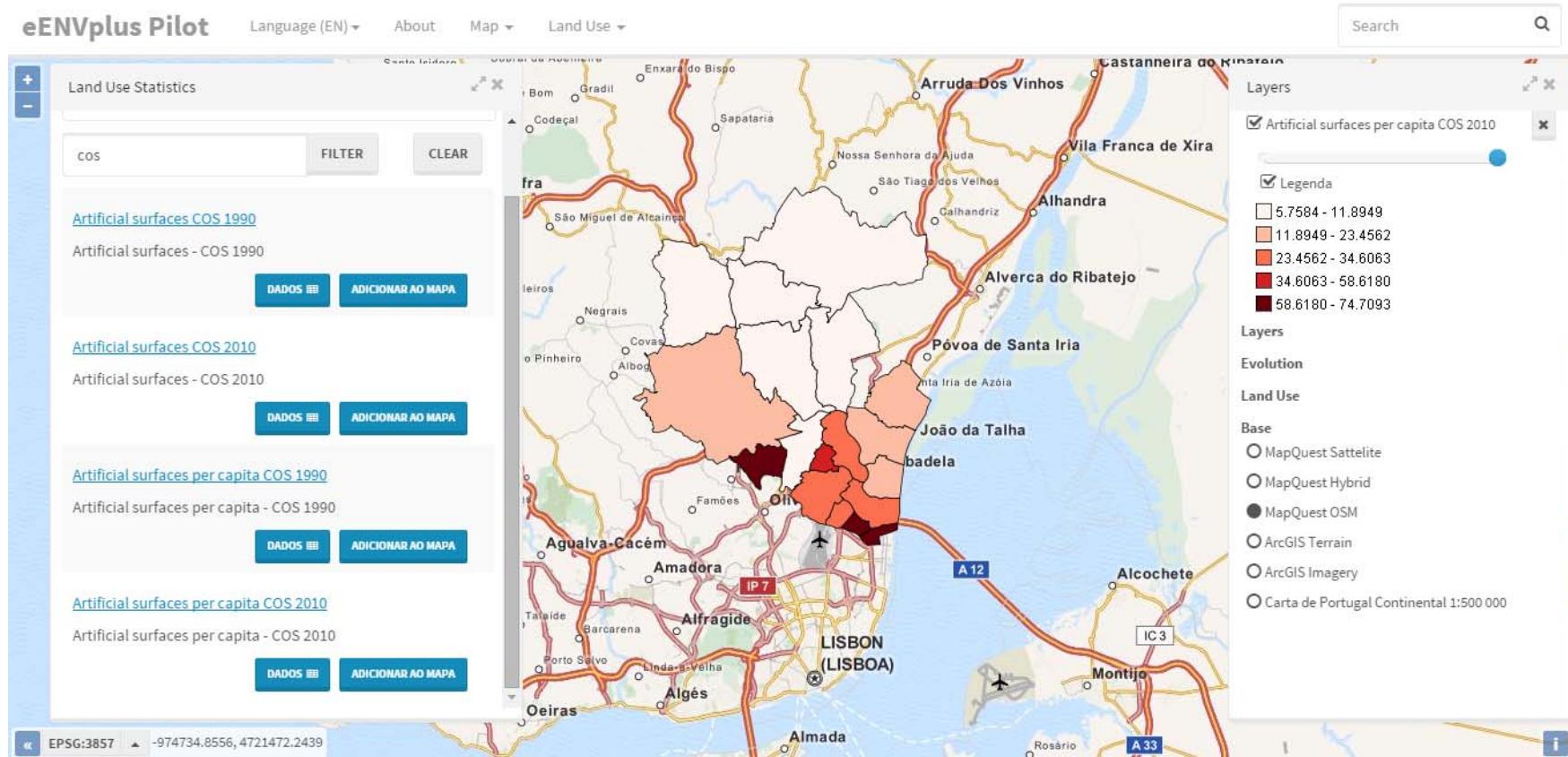
Artificial surfaces per capita COS 2010

[Download Shapefile](#) [Download CSV](#)

Freguesia	Artificial surface per capita 2010 (COS and INE)
MOSCAVIDE	71.799351
PORTELA	58.618019
PRIOR VELHO	20.041567

Download services

Artificial surfaces per capita (source: DGT and INE)



Next steps:

1. Metadata availability
2. Web processing availability
3. Building more dynamic territorial indicators to monitor and support land use planning activities.

Thank you!

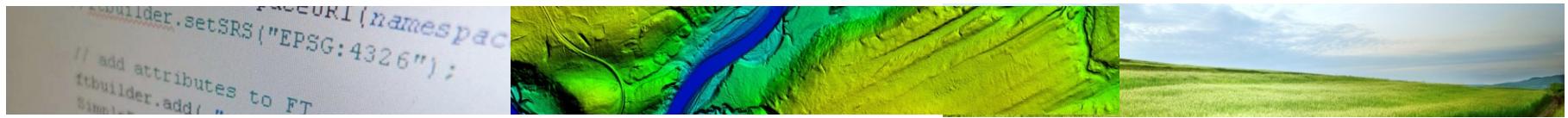
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